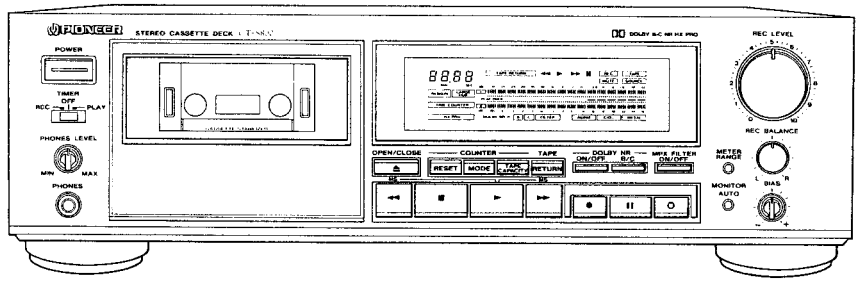
Operating Instructions

STEREO CASSETTE DECK

CT-S800



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE
[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

[For Canadian model]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

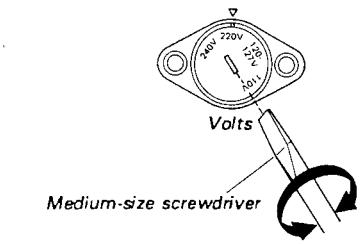
ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.
Main voltages in Saudi Arabia are 127V and 220V only. Never use this model with 110V setting in Saudi Arabia.

The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ,adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value of your area.



"This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC and 82/499/EEC."

PIONEER®
The future of sound and vision.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off.

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
Equipment sold in the U.K. is not supplied with a power plug.

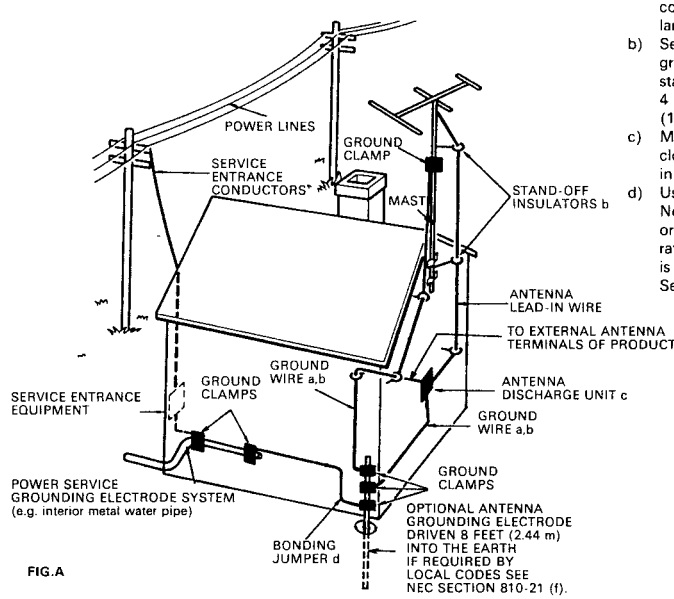
SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.
RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.
HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.
FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.
WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
LOCATION — The appliance should be installed in a stable location.
WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.
VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.
POWER LINES — An outdoor antenna should be located away from power lines.
NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.


POWER LINES
SERVICE ENTRANCE CONDUCTORS
GROUND CLAMP
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a,b
GROUND CLAMPS
ANTENNA DISCHARGE UNIT c
SERVICE ENTRANCE EQUIPMENT
GROUND WIRE a,b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES SEE NEC SECTION 810-21 (f).
BONDING JUMPER d
FIG.A

a) Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copperclad steel, bronze wire, or larger as ground wire.
b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used.
See NEC Section 810-21 (j).

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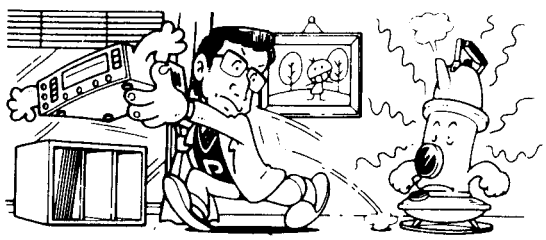
INSTALLATION

When installing the deck, avoid locations with high temperature or humidity, and be sure that the location is well ventilated.

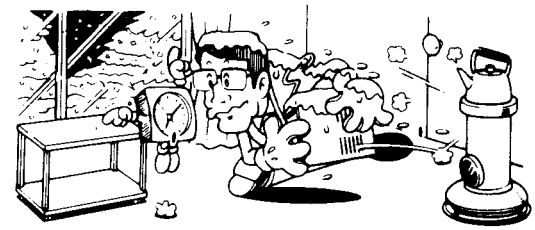
Do not install the deck in locations subject to direct sunlight, or next to a space heater or other heating device, since the finish or internal parts may be affected adversely. Malfunctions may also result if the unit is installed in a humid or dusty location. Also avoid installations next to kitchen counters or other places subject to oily smoke or heat.



- If you place the unit directly on top of an amplifier, it may pick up humming or other noise. Also, if the amplifier generates a large amount of heat, the unit may break down.
- If you place the unit near a television set, it may pick up noise which may be recorded as a whistling tone on the tape. In such a case, either install the unit away from the television set or switch OFF the television set.

DEW CONDENSATION

When the unit is moved from a cold to a warm room, or the temperature changes quickly, condensation will form on the mechanical parts and this will affect the performance of the tape. In such cases, leave the unit in a warmer atmosphere for about one hour or change the room temperature gradually.



NOTE:

When installing the tape deck, do not place a cloth over the top or block the ventilation openings in any other way.

INFORMATION TO USER [FOR U.S. MODEL]

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver
- plug this equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.

FEATURES

SHORTER SIGNAL PATHS

Mono-construction allows the circuits for the left and right channels to be completely independent, resulting in excellent channel separation. The non-inductive playback circuit eliminates mutual interference during operation of the microcomputer or mechanism. The power supply section is separated from the rest of the unit and the center stay prevents the formation of magnetic fields. Recording level and balance adjustment are performed by remote control, resulting in extremely short signal paths and direct signal transmission.

STABILIZED TAPE PATH

Noise resulting from irregular rotation and external vibrations has been reduced to a minimum. To obtain a stabilized tape tension and head touch, a dual capstan system has been employed, consisting of a newly developed cassette stabilizer and pinch rollers and capstans on both sides of the head. In this way a wow and flutter of only 0.024% WRMS (±0.06% DIN) has been realized.

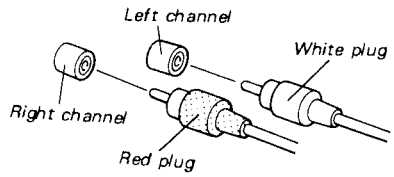
VIBRATION-FREE AND RESONANCE-FREE CONCEPTION

From the chassis and the bottom plate to the inside of the insulators, honeycomb construction based on vibration attenuation characteristics data is used. This guarantees an especially high-rigidity, and vibrations are dispersed in different directions. Thus, vibrations are immediately reduced, preventing deterioration of the sound quality due to vibraton and resonance, resulting in clear sound. The transformer case is highly rigid and made of cast iron which possesses excellent vibration attenuation characteristics and is almost resonance-free.

CONNECTIONS

Connection of input and output cords

- The cords to be used have white and red pin plugs.
- Connect white plugs to the left channel (L), and red plugs to the right channel (R), making sure that the colors match. Take particular care to insert the plugs all the way in.



Connection to an audio timer

For details on the connection to an audio timer, refer to the instruction manual of the audio timer.

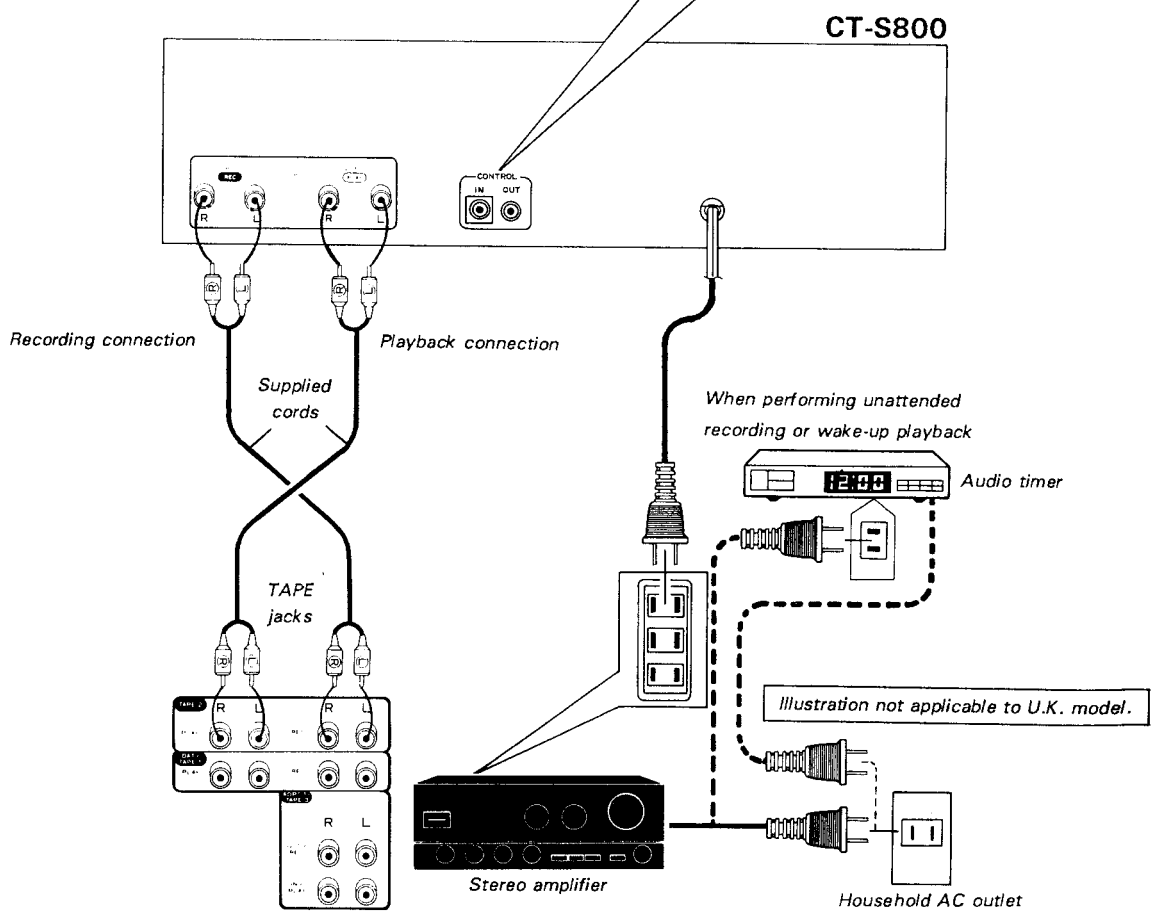
(Not provided in the European model.)

CONTROL IN jack

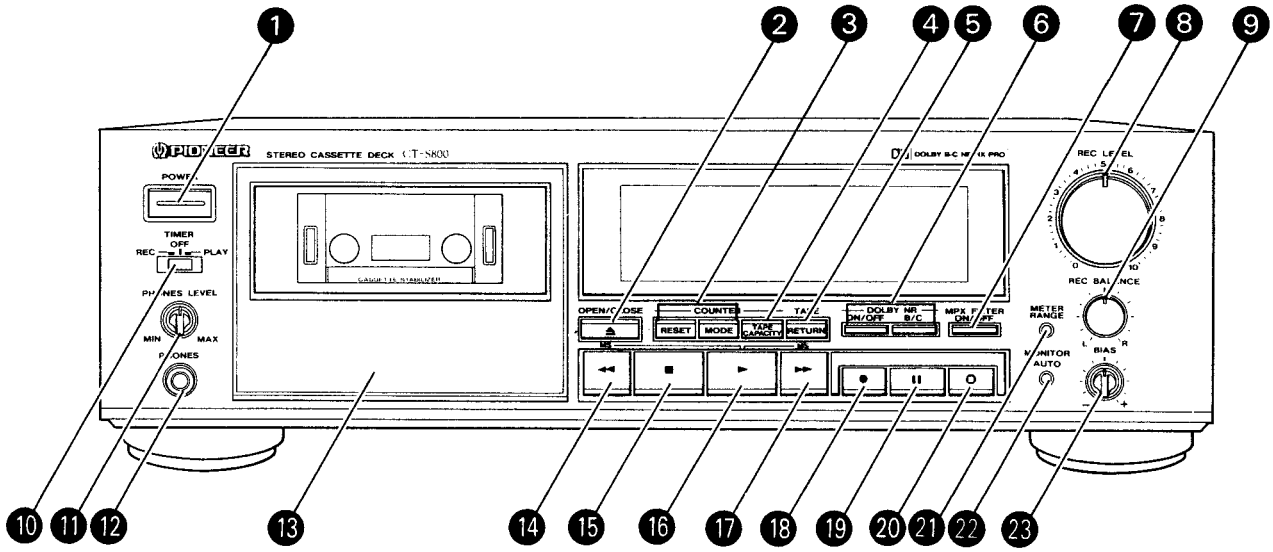
Connect this jack to the CONTROL OUT jack of a component equipped with the Pioneer System Remote Control (bearing the SR mark) using the supplied mini-plug cord, and you will be able to operate the component using the system remote control.

CONTROL OUT jack

Intermediary output of remote control signals from the above input jack. Connect it to the CONTROL IN jack of another component compatible with the Pioneer System Remote Control.



FRONT PANEL FACILITIES



❶ POWER switch

Turn the power on.

After the power is turned on, the dotted lines in the level meter flash for approximately 4 seconds until the circuits of the unit have stabilized. The unit will not operate during this time even if one of the operation buttons is pressed.

❷ Cassette door OPEN/CLOSE button

NOTE:

If the cassette door is closed while the unit is turned OFF, and the power is then turned ON, the cassette door may open and close after pressing one of the operation buttons. This occurs when the microprocessor resets the door mechanism to its initial state and does not indicate any malfunctioning of the unit.

❸ COUNTER selectors

RESET:

Resets the counter indication to "0000."

MODE:

Each time this button is pressed, one of the following three modes is set in sequence.

- Normal tape counter
- Time counter (displays the elapsed playback or recording time)
- Remaining time counter (displays the remaining time of the tape)

❹ TAPE CAPACITY selector

To indicate the correct time value in the remaining time counter mode, this selector must be set in accordance with the tape used.

→ C90 → C80L → C60 → C46L →

❺ TAPE RETURN button

This button is used in the tape counter mode to fast forward or rewind the tape to a point near the counter reading "0000".

❻ DOLBY NR selectors

ON/OFF:

Used to turn the Dolby NR system circuits ON or OFF.

B/C:

With the ON/OFF switch in the ON position, Dolby B or C can be selected with this switch.

❼ MPX FILTER switch

This switch is effective only during recording with Dolby NR.

❽ REC LEVEL control

❾ REC BALANCE control

⑩ TIMER mode selector

REC:
Set to this position for timer recording.

PLAY:
Set to this position for timer playback.

OFF:
When the timer is not to be used, set the selector to this position. (Normally leave the selector in this position.)

⑪ PHONES LEVEL control

⑫ PHONES jack

⑬ Cassette door

⑭ Rewind (◀◀) button

Press this button to rewind the tape. When the button is pressed during playback, the tape rewinds to the beginning of the current selection, and playback starts. If the button is pressed twice, the tape rewinds to the selection before the current selection. (see page 11)

⑮ Stop (■) button

⑯ Play (▶) button

⑰ Fast forward (▶▶) button

Press this button to fast forward the tape. When the button is pressed during playback, the tape advances to the beginning of the next selection, and playback starts. If the button is pressed twice, the tape rewinds to the selection after the next selection. (see page 11)

⑱ Recording (●) button

When this button is pressed, the unit is set to one-touch recording pause (recording standby mode).

⑲ Pause (▮▮) button

The tape transport can be momentarily stopped by pressing this button during recording or playback. Press the button again to restart operation. The button does not operate during fast forward or rewind.

⑳ Record muting (MUTE ○) button

Press this button to create an unrecorded space during recording.

㉑ METER RANGE selector

Selects WIDE or EXPAND as scale range for the level meter.

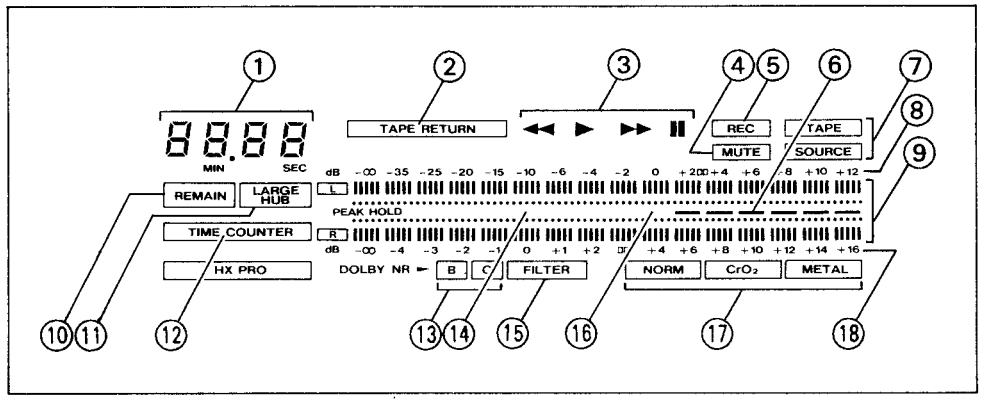
㉒ MONITOR selector AUTO

For monitoring the sound during recording, this switch can be used to switch between source sound and just recorded sound.

㉓ Rec BIAS control

It is possible to adjust the bias according to the tape used and the source to be recorded.

OPERATING DISPLAY



① **Counter**
- The counter has three display modes. (See page 9)
- If the cassette door is open, the message "OPEN" is displayed.
- During music search the number of selections is displayed.

② **TAPE RETURN**
Lights up during tape return operation.

③ **Tape transport modes**

◀◀ : Lights up when rewinding the tape.

▶ : Lights up during playback, playback pause, recording pause and recording. Flashes during music search.

▶▶ : Lights up when fast forwarding the tape.

▮▮ : Lights up in the pause mode.

④ **MUTE**
Flashes and lights during recording mute operation.

⑤ **REC**
Lights up during recording.

⑥ **Warning zone**
Changes according to the type of tape used and to the selected meter range.

⑦ **Monitor source**
TAPE: Recorded sound
SOURCE: Original source sound

⑧ **Scale for WIDE range**

⑨ **Level**
L: Left channel
R: Right channel

The ▯▯ mark indicates the reference level for the Dolby NR system.

⑩ **REMAIN**
Lights up when the remaining time counter mode is selected.

⑪ **LARGE HUB**
Lights up when the TAPE CAPACITY selector is pressed in the remaining time counter mode, and the Large Hub mode is set.

⑫ **TIME COUNTER**
Lights up in the time counter mode.

⑬ **DOLBY NR B/C**
Indicates the selected Dolby Noise Reduction system, B or C.

⑭ **0 dB position for EXPAND range**

⑮ **MPX FILTER**
Lights up when the MPX FILTER switch is pressed while the Dolby NR system is ON.

⑯ **0 dB position for WIDE range**

⑰ **Tape type**
The unit will automatically detect and display the tape type (NORMAL/CrO_2/METAL) of the cassette inserted. When no tape is inserted, METAL is displayed.

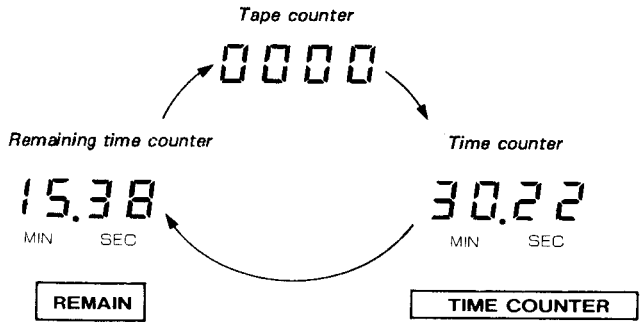
⑱ **Scale for EXPAND range**

3-MODE COUNTER

The counter can be set to one of three following modes: normal tape counter, time counter for displaying the elapsed recording or playback time, or remaining time counter for displaying the remaining tape time.

Counter mode select button

By pressing this button repeatedly, the following three modes are called in succession:



TAPE COUNTER

The counter reading will change as the tape runs. By taking a note of the counter readings and the contents during recording or playback, desired selections or unrecorded portions on the tape can be easily located at a later date.

TIME COUNTER

- Displays the elapsed time during recording or playback. The time counter is automatically activated when the unit is set to recording or playback.
- The time counter displays only the recording or playback duration. It disappears when fast forward, rewind or music search is performed, and is replaced by the tape counter. When recording or playback is recstarted, the time counter appears again.

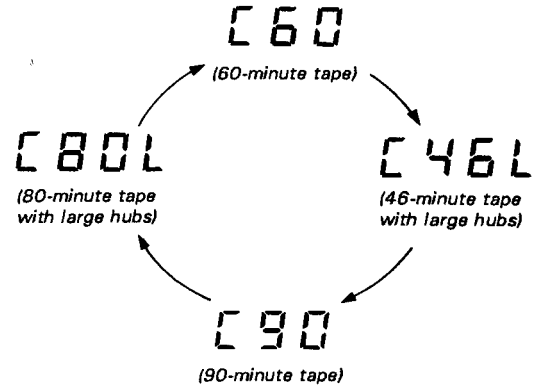
REMAINING TIME COUNTER

Displays the remaining time of the tape during recording or playback.

1. Set to remaining time counter mode by pressing the COUNTER mode selector.

2. Press the TAPE CAPACITY selector.

The counter display changes to the tape capacity display. By pressing the selector repeatedly, the following settings are called in sequence.



Set the selector according to the length of the tape in use.

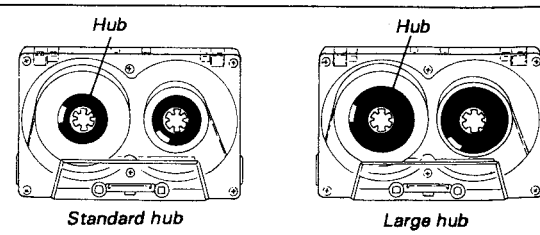
3. Set to playback or recording mode.

Five to seven seconds after the tape starts running, the remaining time for the tape is displayed.

NOTES:

- *The remaining time can be indicated only for the four types of cassettes that can be selected with the TAPE CAPACITY selector. When using tapes of different lengths, set the selector as follows to obtain a close enough estimation of the remaining time.*
  Up to C-60, standard hub tapes: C-60 position
  Up to C-60, large hub tapes: C-46L position
  Up to C-90, standard hub tapes: C-90 position
  Up to C-90, large hub tapes: C-80L position
- *For commonly sold pre-recorded tapes the remaining may not be displayed correctly.*
- *The actual remaining time may differ from the remaining time indication depending on the tape used. Also, since most tapes are slightly longer than the playing time indicated on the label, the remaining time indication "0000" may be reached before the actual end of the tape.*
- *Once the remaining counter has been displayed, even if the counter mode is changed, the remaining time can be checked again by simply selecting the remaining counter mode.*

NOTE:
46-minute and 80-minute tapes can be purchased with two different hub sizes: standard hub and large hub. Tapes with large hubs are marked with an "L", such as C46L and C80L.
Tapes with a hub diameter of 27 mm are referrerd to as large hub tapes.
Please note that with hub diameters of more than 27 mm the tape remaining time indication will not be correct.



PLAYBACK

1. Press the OPEN/CLOSE button ❷.

- Insert the tape to be played back, then close the cassette door by pressing the OPEN/CLOSE button once again. The cassette door can also be closed manually by pushing it in lightly with a finger.
- When the OPEN/CLOSE button is pressed, "OPEN" appears in the counter, and the cassette door opens. (However, the cassette door will not open during recording.)
  While the cassette door is open, pressing the play (►) button, fast forward (►►) button, rewind (◄◄) button, recording (REC ●) button or pause (▮▮) button will close the cassette door automatically, and the operation corresponding to the button pressed begins.

NOTE:
If the cassette door is closed while the unit is turned OFF, and the power is then turned ON, the cassette door may open and close after pressing one of the operation buttons. This occurs when the microprocessor resets the door mechanism to its initial state and does not indicate any malfunctioning of the unit.

2. Set the DOLBY NR selectors ❻.

When playing a cassette you recorded, set the DOLBY NR selectors to the position corresponding to the system used during recording. In case of purchased pre-recorded tapes, select the system indicated on the tape label.
When the ON/OFF switch is set to ON, the mode selected with the B/C mode selector is indicated in the display (see page 15).

3. Press the play (►) button ⓰.

- Press the pause (▮▮) button ⓳ to temporarily stop the tape. To continue playback, press the pause (▮▮) button ⓳ once again.
- TAPE of the Monitor source indicator and the playback (►) indicator light up. The level meter continuously shows the variations in the playback level. The TAPE RETURN button ❺ can be pressed during stop, playback or recording.

To stop playback:
Press the stop (■) button ⓯.

FAST FORWARD
Press the fast forward (►►) button ⓱ in the stop mode.

REWIND
Press the rewind (◄◄) button ⓮ in the stop mode.

TAPE RETURN FUNCTION

- Press the COUNTER RESET button at the position to be memorized.
  The indicator is reset to "0000".
- Press the TAPE RETURN button ❺.
  By simply pressing one button, the tape can then be fast forwarded or rewound from any position and will stop near the counter reading "0000." If the play (►) button ⓰ is pressed during tape return operation, playback will start automatically when "0000" is reached.

AUTO TAPE SELECTOR MECHANISM

The type of tape inserted is automatically detected by the sensor holes in the cassette half, and recording bias and equalization are automatically set accordingly. The tape type is then indicated by the corresponding indicator.

AUTO TAPE LOOSE CANCELLER (ATLC)

When the cassette door closes, the take-up reel automatically rotates and takes up tape slack.

NOTE:
Do not use C-120 tapes, since they are extremely thin and are liable to cause problems such as getting entangled in the pinch rollers and capstans or being wound improperly.

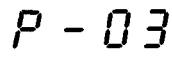
MUSIC SEARCH (MS)

With the Music Search function, the beginning of a desired selection can be found by rewinding or fast forwarding the tape during playback. After the desired selection has been located, playback starts automatically. The function can find a selection located up to 15 selections before or after the current position.

Going back to the beginning of a selection located before the current selection:

1. **Press the play (►) button ⑯.**
2. **Press the rewind (◄◄) button ⑭ once, and then once for each selection to be skipped.**

If the rewind button (◄◄) is pressed three times, a minus sign appears in the counter, and the second selection before the current selection is searched for and played back.



Advancing to the beginning of a selection located after the current selection:

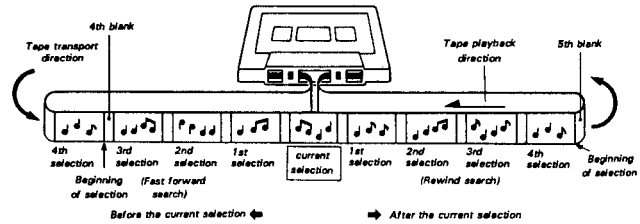
1. **Press the play (►) button ⑯.**
2. **Press the fast forward (►►) button ⑰ once for each selection to be skipped.**

If the fast forward button (►►) is pressed three times, the number 3 appears in the counter, and the third selection after the current selection is searched for and played back.

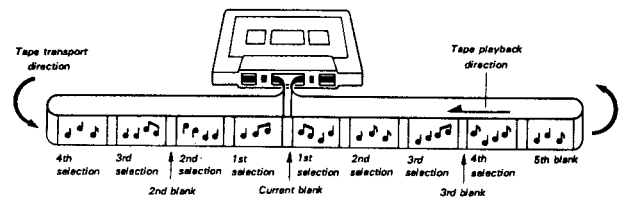
NOTE:
The playback (►) indicator flashes during music search to indicate that the operation is taking place.

HOW SELECTIONS ARE COUNTED

Activating music search during playback of a selection:
To search for the fourth selection after the current selection, for example, four selections must be skipped.
To search for the fourth selection before the current selection, however, the current selection is to be included in the counting, so that five selections must be skipped.



Activating music search from a blank between two selections:
To search for the third selection after the blank, for example, two selections must be skipped. To search for the third selection before the blank, however, three selections must be skipped.



NOTE:
In the following cases, the music search function may be unable to properly detect blanks between selections, thus operating incorrectly. This is not, however, a sign of unit malfunction.

- *When using a tape with blanks between selections less than 4 seconds long.*
- *When listening to tapes with long, low-level parts, like classical music, or with sound breaks several seconds long within selections.*
- *When listening to recorded conferences or talk shows, where sound is interrupted.*
- *When using tapes with noise in the blanks between selections.*

RECORDING

1. Press the OPEN/CLOSE button.

Insert the tape to be recorded, then press the OPEN/CLOSE button once again to close the cassette door.

2. Set the DOLBY NR selectors ⑥.

3. Press the Recording (REC ●) button ⑱.

- The unit is set to the recording standby mode, called one-touch recording pause.
- The [REC] indicator, playback (►) and pause (▮▮) indicators light up, and monitor is set to source with the [SOURCE] indicator lighting.

4. Set the proper recording level with the REC LEVEL control ⑧.

Select the source for recording with the amplifier, set to playback, and adjust the recording level using the level meter indication.

[Balancing the recording level between left (L) and right (R) channels]

Depending on the source to be recorded or the equipment used for playback, the sound volume balance between left and right may be shifted to one side. In this case perform fine adjustment using the REC BALANCE control.
Turning the control clockwise will lower the left channel level, and turning it counterclockwise will lower the level of the right channel.

5. Press the pause (▮▮) button ⑲.

- Recording starts.
- To temporarily stop recording, press the pause (▮▮) button. Press the pause (▮▮) button once again to restart recording.
- When the monitor is set to tape, the [TAPE] indicator light up. To cancel the recording standby mode, the play (►) button ⑯ can be pressed instead of the pause (▮▮) button.

To stop recording

Press the stop (■) button ⑮.

RECORDING LEVEL ADJUSTMENT

- The most important factor for good recording results is the recording level adjustment. If the recording level is set at maximum, the signal and noise ratio (S/N) and the dynamic range (range of sound volume) will improve, but if it is set too high, the sound quality will deteriorate. On the other hand, when the recording level is set too low in order to avoid distortion, tape hiss noise becomes too evident. Even among tapes of the same type, the tape characteristics may differ according to maker and kind. It is therefore important to determine the maximum recording level for each tape used, in order to obtain good recordings by fully utilizing the tape characteristics.
  With this unit, meter range switching is possible. (See page 13).
- The warning zone indicators light up to the +6 dB point for NORMAL and CrO_2 tapes, and up to the +10 dB point for METAL tapes. Adjust the recording level so that at times of maximum signal input the level indicator will enter the warning zone only occasionally.
- The optimum recording level depends on the type of music to be recorded and also on the type of tape used. To obtain better recordings that make the most of the tape characteristics, judge the playback sound quality by actually listening to your recordings.

[Peak hold function]

Since the peak levels are displayed for 1.2 seconds, it is possible to adjust the recording level accurately even for music which contains sudden and brief, high-level bursts.

HOW TO OBTAIN GOOD QUALITY RECORDINGS

AUTO MONITOR

Since this tape deck is provided with a three-head system, tape monitor is possible.

Furthermore, the unit is equipped with an auto monitor function which automatically sets to source monitor during recording standby, and to tape monitor during playback or when the recording is started. The [TAPE] or [SOURCE] indicator in the level meter display lights up to indicate the current monitor mode.

The MONITOR selector can be used to manually switch between source and tape.

NOTE:

A 3-head system consists of independent tape heads for recording, playback and erasure as well as separate amplifiers for recording and playback.

The MONITOR selector of this 3-head system allows switching between the recording amplifier and the playback amplifier.

Select the [SOURCE] position for monitoring the original sound source being recorded. This position is used for recording level adjustment. The [TAPE] position is used for monitoring the sound just recorded on the tape with the recording head by playing it back immediately with the playback head (recording monitor).

It is therefore possible to monitor the signals recorded on tape during a recording in order to confirm whether the recording level has been adjusted properly.

BIAS ADJUSTMENT

It is possible to adjust the bias according to the tape used and the source to be recorded.

When rotating the BIAS control clockwise:

The bias is increased (+) and consequently the high frequencies decrease, but distortion is reduced.

When rotating the BIAS control counterclockwise:

The bias is decreased (−) and consequently distortion increases, but high frequencies are improved.

Using the MONITOR selector, monitor the sound during recording and adjust the BIAS control until the recorded sound is the same as the source sound.

NOTE:

When performing bias adjustment, a sound with clearly distinguishable high frequencies (e.g. cymbals, etc.) is useful as reference. When using FM inter-station noise, make sure that the recording level is −10 dB or less.

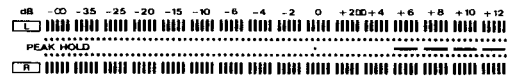
For sources with large, high-frequency content, such as rock music, it is possible to obtain recordings richer in modulation by turning the BIAS control towards (−). In case of classical music, it is possible to obtain recordings with rich middle and low range and low distortion by turning the BIAS control towards (+).

METER RANGE SELECTION

By pressing the METER RANGE selector WIDE or EXPAND range can be set for the level meter.

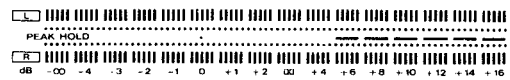
[WIDE RANGE]

Indicated the levels from −35 to +12 dB in 15 steps.



[EXPAND RANGE]

Indicated the levels from −4 to +16 dB in 15 steps. This scale permits a finer level adjustment.



MPX FILTER

When recording FM stereo broadcasts with one of the Dolby NR systems, press the MPX FILTER switch so that the [FILTER] indicator lights up.

NOTE:

The FM stereo signal contains a 19 kHz pilot signal and a 38 kHz subcarrier. To avoid incorrect operation of the Dolby NR circuits due to these signals, it is necessary to activate the MPX filter. Always set the switch to OFF, except when recording FM stereo broadcasts. The switch is inoperative during playback.

The filter works only when the Dolby NR system is set to ON.

RECORDING MUTE

(creating blanks on the tape)

Use this function to create the 4-second blanks required for the music search operation.

- Press the Record muting (MUTE ○) button during recording, and the unit will stop recording sound on the tape for about 4 seconds, then enter the recording pause mode.
- To create a blank more than 4 seconds long, hold the button down for the desired time. The unit will enter the recording pause mode when you release the button.
- To resume recording, press the pause (▮▮) button.

TIMER-PLAYBACK (wake-up playback)

1. **Insert the tape to be played back.**
2. **Set the TIMER mode selector ⑩ to PLAY.**
3. **Set the audio timer.**

Power of all components will go off.

NOTES:

- *When not performing timer operation, always set the TIMER switch to OFF. If the switch is left in the PLAY position, playback will automatically start when the unit is turned on.*
- *Before setting the timer, play back the tape once and adjust volume and tone with the amplifier.*
  Set the DOLBY NR selectors according to the tape.

TIMER-RECORDING (unattended recording)

1. **Insert the tape to be recorded.**
2. **Set the TIMER mode selector ⑩ to REC.**
3. **Press the recording (REC ●) button ⑱ and adjust the recording level.**
4. **Press the stop (■) button ⑮.**
5. **Set the audio timer.**

Power of all components will go off.

NOTES:

- *Make sure that the erasure prevention tabs of the tape used for recording have not been removed.*
  Perform setting of Dolby NR and MPX Filter and adjust recording bias and balance as required.
- *When not performing timer operation, always set the TIMER mode selector to OFF.*
  If the switch is left in the REC position, recording will automatically start when the unit is turned on.

DOLBY NR & DOLBY HX PRO

DOLBY NR SYSTEM

The Dolby NR system is designed to reduce high-frequency noise (tape hiss) during playback. The level of low-volume, high-frequency sounds is increased during recording, and decreased by the same amount during playback to restore the original level. At the same time, high-frequency noise (most easily perceived by the human ear) is attenuated as well.

Dolby NR type B reduces high-frequency tape noise, widening the dynamic range. Type C is even more powerful, applying the noise reduction effect to a wider spectrum of frequencies from the middle range.

For playback always use the same Dolby NR setting that was used for recording.

NOTE:

Avoid playing back tapes recorded using the Dolby NR system with the DOLBY NR switch in the OFF position, or tapes recorded without Dolby NR system with the DOLBY NR switch in the ON position (B or C), since this does not allow faithful reproduction of the original sound.

DOLBY HX PRO HEADROOM EXTENSION SYSTEM

The Dolby HX Pro system controls the bias current during recording and always keeps it at an optimum level according to the high-frequency components of the music signal. It therefore allows excellent recordings even of digital sources which contain a large amount of strong, high-frequency components. The Dolby HX Pro effect is obtained independently from the setting of the Dolby NR system (B, C or OFF). Furthermore, since the system is used only during recording, an improvement of sound can be achieved even if tapes recorded with Dolby HX Pro are played back with a deck, radio cassette recorder or car stereo system not equipped with DOLBY HX PRO. To guarantee optimum recording results, the HX Pro system of this unit is automatically activated during recording.

NOTES:

- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol* *and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

HOW TO HANDLE CASSETTE TAPES

CHECK CASSETTE BEFORE USE

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not enter between the capstan and pinch roller. This will prevent the tape from being supplied or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack (Fig. A.).

Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

What are the accidental erasure prevention tabs for?

A cassette is provided with these tabs so that important or otherwise valuable recordings will not be erased accidentally.

When the tab (Fig. B) on the cassette shell is broken off with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (REC) switch, so valuable recordings will not be erased in error.

To re-record a cassette on which tabs have been broken off, simply stick a piece of doubled adhesive tape over the tab areas, as shown in Fig. C.

In case of metal tape or chrome tape, take sufficient care that the detection hole (Fig. D, Fig. E) is not blocked. When this hole is blocked, the automatic tape selector mechanism does not operate correctly.

NOTE:

The accidental erasure prevention tabs are located at the top left on both sides A and B (1 or 2), so that material on each side can be prevented from being erased in error.

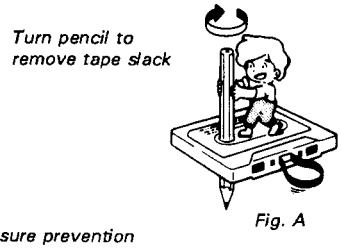


Fig. A

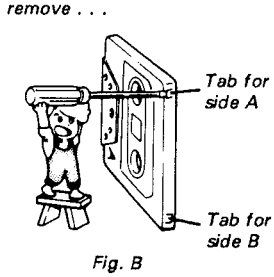


Fig. B

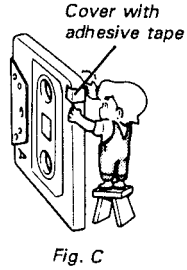


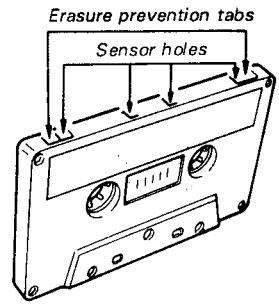
Fig. C

AUTOMATIC TAPE SELECTOR FUNCTION

This unit is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used, in order to set the deck to match the tape recording bias and equalization.

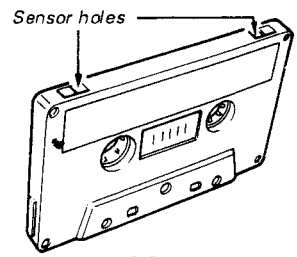
REGARDING THE TAPE CASSETTE SENSOR HOLES

- Do not use FeCr tapes with this unit.
- When using metal tapes, be sure the tape cassettes have



Metal tape

Fig. D



CrO2 tape

Fig. E

TIPS ON USING CASSETTE TAPES

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for about 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt or oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.

MAINTENANCE

ALWAYS MAKE SURE THAT THE TAPE HEADS ARE CLEAN

With dirty tape heads satisfactory recording and playback sound cannot be obtained. Symptoms are hazy and distorted sound, and in the worst case recording or playback may be impossible. Therefore, always make sure that the tape heads are clean.

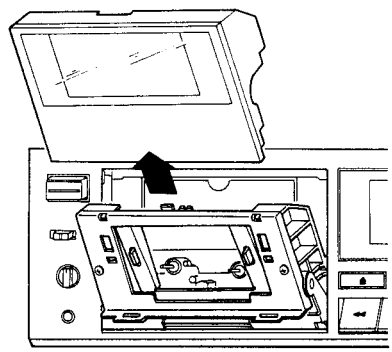
CLEANING THE TAPE HEADS

The tape heads, capstans and pinch rollers are parts which easily collect dirt such as tiny particles from the tape or grease and dust. These parts should be cleaned regularly using a cotton swab or a soft cloth moistened with cleaning fluid.

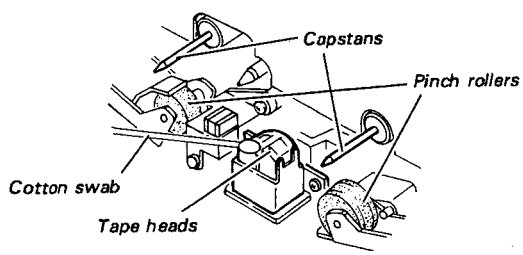
One of the optional Pioneer tape deck cleaning kits is recommendable for this purpose.

Cleaning Procedure (with the Pinch Rollers Rotating)

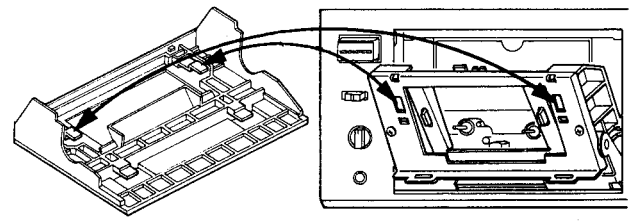
1. Remove the cassette door.
   Hold both sides of the cassette door and pull it off in the direction of the arrow.



2. Press the play (►) button.
3. Lightly moisten the cotton swab with cleaning fluid and clean the heads, pinch rollers and capstans.



4. Reattach the cassette door.
   Fit the claws on the rear side of the cassette door into the holes of the pocket frame and push down lightly.



Note:

- *Always remove and reattach the cassette door with the door frame opened.*
- *Do not insert a tape immediately after cleaning. Wait until the cleaning fluid has completely dried (this takes two to three minutes).*

DEMAGNETIZING THE TAPE HEADS

After using the cassette deck over a period of time, the heads may become magnetized. Bringing a screwdriver or a magnet too close to the heads may have the same effect. Magnetizing heads cause a loss of high-frequency sounds during recording and playback, and also may produce noise. Therefore, the heads should be regularly demagnetized with a commercially available head demagnetizer.

Before demagnetizing the heads, make sure that the POWER switch of the deck is OFF. For detailed instructions, consult the operating manual of the head demagnetizer.

CLEANING THE FRONT PANEL AND THE CABINET

Normally the front panel and the cabinet should be cleaned with a soft and dry cloth. If very dirty, a soft cloth moistened with a neutral cleaning solution and then wrung out may be used for wiping off the dirt. Wipe dry with a cloth afterwards. Never use alcohol, benzine thinners or insecticides in the vicinity of the unit, since these chemicals may damage the panel finish. When a chemically treated cloth, etc. is used for cleaning , carefully observe the cautions attached to the cloth.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Probable cause	Remedy
POWER		
Unit cannot be turned on.	Loose or disconnected power cord.	Connect power cord.
PLAYBACK		
Tape does not run.	• Tape completely wound to its end. • Set to pause mode. • Tape not correctly loaded.	• Rewind tape. • Press PAUSE button (▮▮) once again. • Insert tape correctly.
No sound.	• Incorrect connection. • Incorrect amplifier setting.	• Re-check connections and connect all cords securely. • Set amplifier for tape playback.
RECORDING		
Recording not possible.	• Erasure prevention tabs broken off. • Dirty heads. • REC LEVEL control set to "0."	• Replace cassette or cover erasure protection holes with tape (see page 16). • Clean heads (see page 17). • Turn the REC LEVEL control clockwise.
ABNORMAL SOUND		
High-frequency sounds are not produced.	• Dirty heads. • Bias setting did not match tape characteristics at time of recording. • A tape recorded without Dolby NR is played back with DOLBY NR.	• Clean heads (see page 17). • Turn the BIAS control counterclockwise (see page 13). • Check whether the tape has Chrome/Metal sensor holes. • Set the DOLBY NR selector to OFF.
Distorted sound.	• Dirty heads. • Recorded tape itself contains distortion. • Recording level too high.	• Clean the heads (see page 17). • Replace cassette. • Lower recording level and record.

Symptom	Probable cause	Remedy
ABNORMAL SOUND.		
Sound wavers and skips.	• Tape path dirty. • Tape is not properly wound.	• Clean pinch rollers, capstans and heads (see page 17). • Tighten tape by rewinding or fast forwarding.
High noise level.	• Magnetized heads. • Tape contains much noise. • Improper cord connection. • Recording level too low.	• Demagnetize heads with a demagnetizer (see page 17). • Replace cassette. • Insert all plugs correctly. • Turn the REC LEVEL control down when recording (see page 12).
High-frequency sounds are emphasized.	A tape recorded with DOLBY NR is played back without DOLBY NR.	Set DOLBY NR selector to ON.
OTHER PROBLEMS		
Tape cannot be erased.	• REC LEVEL control not set to minimum. • Dirty heads.	• Turn REC LEVEL control fully counter-clockwise. • Clean heads (see page 17).
Music search not possible.	Blank space between selections is shorter than 4 seconds.	Use a tape with at least 4 seconds of unrecorded space between selections (see note page 11).
Remaining time cannot be displayed.	Incorrect setting of TAPE CAPACITY selector.	Set the TAPE CAPACITY selector correctly (see page 9).

SPECIFICATIONS

Systems ..... 4 track, 2-channel stereo
Heads ..... Recording and playback head
Laser amorphous playback head/
Hard parmalloy recording head combination × 1
Erasing head:(Ferrite head) × 1
Motors ..... DC servo capstan motor × 1
DC reel motor × 1
DC auxiliary motor × 1
Wow & Flutter ..... 0.024%(WRMS)
±0.06%(DIN)
Fast winding time ..... Approximately 80 seconds
(C-60 tape)
Frequency response (−20 dB recording)
Metal tape ..... 20 Hz to 22,000 Hz
Chrome tape ..... 20 Hz to 21,000 Hz
Normal tape ..... 20 Hz to 21,000 Hz
Signal-to-noise ratio
DOLBY NR OFF ..... More than 60 dB
Noise Reduction Effect
DOLBY NR B type ON .. More than 10 dB (at 5 kHz)
DOLBY NR C type ON .. More than 19 dB (at 5 kHz)
Harmonic distortion ..... No more than 0.6% (0 dB)
Input ..... LINE: 67 mV
(Input impedance: 50 kΩ)
Output ..... LINE: 316 mV
(Output impedance: 1.4 kΩ)
Headphones: 0.8 mW
(Load impedance 8Ω VR Max.)

Subfunctions

- 3-mode counter (4-digit electronic counter)
- Auto Tape Loose Canceller function
- Meter range selection (WIDE/EXPAND)
- Auto Monitor function (TAPE/SOURCE auto selection)
- Power Eject (OPEN/CLOSE)
- Music Search (over ±15 selections)
- Tape Return/Return play
- Headphones jack (with volume control)
- Bias control
- MPX filter
- Auto Space Recording Mute
- Auto Tape Selector
- Playback/Recording timer start function
- Dolby Noise Reduction (B/C)
- Dolby HX Pro system
- FL Level Meter Peak-hold function (15 + 1 segments)
- System remote control available (Not provided in the European model)

Miscellaneous

Power Requirements
U.S., Canadian models ..... AC 120V, 60 Hz
European model ..... AC 220V, 50/60 Hz
U.K., Australian models ..... AC 240V, 50/60 Hz
U.S. military and other destination models .....
AC110V/120V—127V/220V/240V,
50/60 Hz (switchable)
Power Consumption
U.S., Canadian models 25W
European model 28W
U.S. military, other destination models 28W
Dimensions ..... 420(W) × 133.5(H) × 372(D) mm
16-9/16(W) × 5-1/4(H) × 14-5/8(D) in
Weight (without package)
U.S., Canadian, European models .....
9.6 kg (21 lb 2 oz)
U.S. military, other destination models .....
9.7 kg (21 lb 4 oz)

Accessories

Operating instructions 1
Connecting cords 2
Control cord (Not provided in the European model) ... 1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.

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